JUL 22 1925

U. S. Gov't
Master
Specification
No. 104a

DEPARTMENT OF COMMERCE

BUREAU OF STANDARDS

George K. Burgess, Director

CIRCULAR OF THE BUREAU OF STANDARDS No. 237

[Issued June 15, 1925]

UNITED STATES GOVERNMENT MASTER SPECIFICATION FOR LOW-PRESSURE SPIRAL GLAND PACKING

FEDERAL SPECIFICATIONS BOARD SPECIFICATION No. 104a

[Revised June 15, 1925]

This specification was officially promulgated by the Federal Specifications Board on December 29, 1923, for the use of the Departments and Independent Establishments of the Government in the purchase of low-pressure spiral gland packing.

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I. GRADE

Packing shall be furnished in one grade only.

II. MATERIAL AND WORKMANSHIP

Packing shall be made of slab stock built up of layers of frictioned duck laid on the bias at 45° angle and in alternate directions, each ply overlapping the butted joint of the adjacent ply. Each slab shall have a top and bottom rubber cover.

III. GENERAL REQUIREMENTS

See Section IV.

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IV. DETAIL REQUIREMENTS

1. The fabric shall weigh not less than 27.4 ounces per square yard.

2. There shall be not less than one layer of frictioned fabric for each $\frac{1}{16}$ inch of thickness, exclusive of the top and bottom covers.

3. The top and the bottom rubber cover shall each be not more than $\frac{3}{64}$ inch in thickness measured to the bottom of the fabric impressions.

4. The top and bottom rubber cover shall contain not less than 45 per cent by weight of the best quality new wild or plantation rubber. The acetone extract corrected for free sulphur shall not exceed 6 per cent, nor shall the total sulphur, exclusive of that contained in barytes, exceed 8 per cent by weight of the rubber as compounded.

5. After being cut from the slab, the packing shall be coiled into spirals and vulcanized.

6. The inside diameter of the spiral shall be not less than four times nor more than six times the thickness of the finished packing.

7. The spirals shall be lubricated with mineral oil and dipped in graphite. The amount of lubrication shall not exceed 30 per cent by weight of the finished packing.

8. There shall be neither ply separation nor material hardening of the rubber when a piece of finished packing is subjected to four hours' exposure to steam at 50 lbs./in.^{2} pressure.

9. The packing shall bend readily around rods as shown below:

Thickness of packing (inches)	Diameter of rod
¼ to ¾	Equal to thickness of packing.
⅞ to 1⅛	Equal to twice the thickness of packing.
Greater than 1⅛	Equal to three times the thickness of packing.

10. The friction between the plies shall be such that a weight of 8 pounds per inch of width shall not cause the plies to separate at a greater rate than 1 inch per minute.

11. The packing shall weigh within 5 per cent plus or minus of the proposed weights as submitted with the bids.

V. METHOD OF INSPECTION AND TESTS

The inspector shall select one sample 24 inches long for sizes up to ½ inch and 12 inches long for sizes over ½ inch, from each lot of 1,000 pounds or less.

VI. MARKING AND PACKING

Material shall be marked and packed as called for in the proposal.

VII. ADDITIONAL INFORMATION

No details specified.

VIII. GENERAL SPECIFICATIONS

All tests and analyses shall be made in accordance with the methods described in United States Government General Specifications for Rubber Goods, F. S. B. Specification No. 59a, in effect on date of proposal.

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